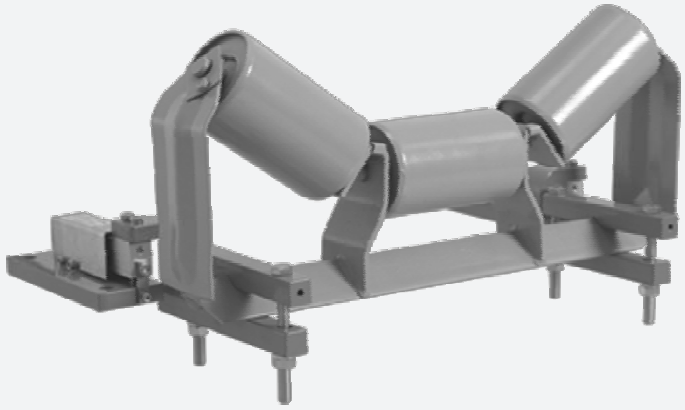
Belt Scales

Milltronics MBS Belt Scale

Operating Instructions · 06/2012



Milltronics

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Safety Guidelines

Warning notices must be observed to ensure personal safety as well as that of others, and to protect the product and the connected equipment. These warning notices are accompanied by a clarification of the level of caution to be observed.

Qualified Personnel

This device/system may only be set up and operated in conjunction with this manual. Qualified personnel are only authorized to install and operate this equipment in accordance with established safety practices and standards.

Unit Repair and Excluded Liability:

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- All new components are to be provided by Siemens Milltronics Process Instruments.
- Restrict repair to faulty components only.
- Do not reuse faulty components.

Warning: Cardboard shipping package provides limited humidity and moisture protection. This product can only function properly and safely if it is correctly transported, stored, installed, set up, operated, and maintained.

This product is intended for use in industrial areas. Operation of this equipment in a residential area may cause interference to several frequency based communications.

Note: Always use product in accordance with specifications.

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Belt Scales
Milltronics MBS

Operating Instructions

Introduction 1

Safety notes 2

Description 3

Installing/Mounting 4

Connecting 5

Commissioning 6

Service and maintenance 7

Technical data 8

Dimension drawings 9

06/2012

7ML19985JN01-01

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Warning notice system

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⚠ DANGER

indicates that death or severe personal injury **will** result if proper precautions are not taken.

⚠ WARNING

indicates that death or severe personal injury **may** result if proper precautions are not taken.

⚠ CAUTION

with a safety alert symbol, indicates that minor personal injury can result if proper precautions are not taken.

CAUTION

without a safety alert symbol, indicates that property damage can result if proper precautions are not taken.

NOTICE

indicates that an unintended result or situation can occur if the relevant information is not taken into account.

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Qualified Personnel

The product/system described in this documentation may be operated only by **personnel qualified** for the specific task in accordance with the relevant documentation, in particular its warning notices and safety instructions. Qualified personnel are those who, based on their training and experience, are capable of identifying risks and avoiding potential hazards when working with these products/systems.

Proper use of Siemens products

Note the following:

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Siemens products may only be used for the applications described in the catalog and in the relevant technical documentation. If products and components from other manufacturers are used, these must be recommended or approved by Siemens. Proper transport, storage, installation, assembly, commissioning, operation and maintenance are required to ensure that the products operate safely and without any problems. The permissible ambient conditions must be complied with. The information in the relevant documentation must be observed.

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Disclaimer of Liability

We have reviewed the contents of this publication to ensure consistency with the hardware and software described. Since variance cannot be precluded entirely, we cannot guarantee full consistency. However, the information in this publication is reviewed regularly and any necessary corrections are included in subsequent editions.

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Table of contents

1 Introduction 5

1.1 The manual 5

2 Safety notes 7

2.1 General safety instructions 7

3 Description 9

3.1 Introduction 9

3.2 Principle of operation 9

4 Installing/Mounting 11

4.1 Introduction 11

4.2 Conveyor considerations 11
4.2.1 Control gates 12
4.2.2 Conveyor belting 12
4.2.3 Head pulley 12
4.2.4 Conveyor curvature 15
4.2.5 Belt ploughs 16
4.2.6 Stacker conveyors 16
4.2.7 Conveyor trippers 16
4.2.8 Skirt boards and sealing strips 17

4.3 Load cell handling 17

4.4 Installation precautions 18

4.5 Installation Procedure 19
4.5.1 Installation introduction 19
4.5.2 Remove the idler 19
4.5.3 Remove the idler foot plate and modify the idler frame at both ends 20
4.5.4 Idler mounting 20
4.5.5 Position the weighmodule 24
4.5.6 Position the scale 25
4.5.7 Release the shipping stops 26
4.5.8 Align and level the idlers 27
4.5.9 Check alignment 28

5 Connecting 29

5.1 Belt scale wiring 29

6 Commissioning 31
6.1 Calibration 31
6.2 Test load 31
6.3 Balancing 32
6.4 Final calibration 32
6.5 Zero calibration 33
6.6 Span calibration 33
6.7 Material test 33
6.8 Re-rating 33
7 Service and maintenance 35
7.1 Maintenance 35
7.2 Replacing a load cell 36
7.3 Spare parts 36
7.4 Technical support 37
8 Technical data 39
8.1 Specifications 39
9 Dimension drawings 43
9.1 Outline dimensions 43

Introduction 1

Note

The Siemens weighing system is to be used only in the manner outlined in this manual, otherwise protection provided by equipment may be impaired.

- It is your responsibility to read this manual before installing and starting up any component of the weighing system to which the belt scale is being applied.

1.1 The manual

This manual covers only belt scale installation, operation, and maintenance procedures. Integrator and speed sensor operating instructions are available for download from our website:

Siemens weighing (http://www.siemens.com/weighing)

Follow these operating instructions for quick, trouble-free installation, and maximum accuracy and reliability of your weighing system.

We always welcome suggestions and comments about manual content, design, and accessibility. Please direct your comments to:

Technical publications (mailto:techpubs.smpi@siemens.com)

Safety notes

2

2.1 General safety instructions

⚠ CAUTION

Correct, reliable operation of the product requires proper transport, storage, positioning and assembly as well as careful operation and maintenance. Only qualified personnel should install or operate this instrument.

Note

Alterations to the product, including opening or improper repairs of the product, are not permitted.

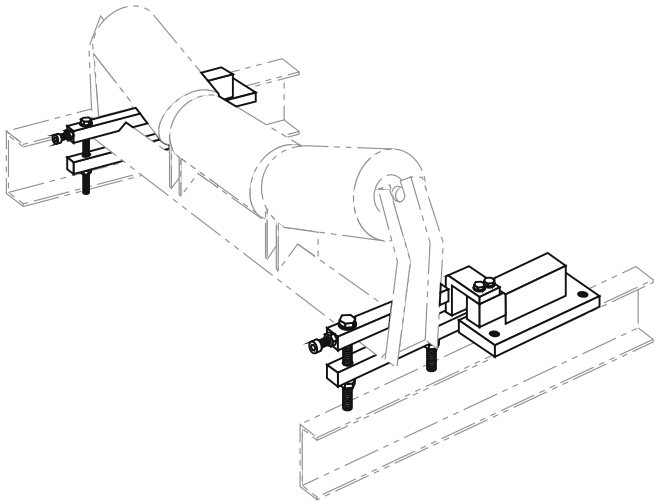
If this requirement is not observed, the CE mark and the manufacturer's warranty will expire.

Description 3

3.1 Introduction

Milltronics MBS Belt Scale

Milltronics MBS is a basic, modular, medium-duty belt scale providing dynamic weighing information for process indication. The MBS includes a left and a right weigh module, with one load cell each.



The addition of an idler (supplied and installed by the customer) to the weigh module completes the weighing assembly. The MBS load cells provide an electronic signal, proportional to load, which is fed to the Siemens integrator. Thus, weighing is accomplished without interrupting the process and without affecting the process material.

3.2 Principle of operation

Belt scales work with an existing belt conveyor and the selected Siemens integrator. As material moving along the conveyor belt travels over the belt scale, it exerts a force proportional to the material load through the suspended idler to the load cells.

The belt scale reacts only to the vertical component of the applied force. The resulting movement in each load cell is sensed by its strain gauges. When the strain gauges are excited by voltage from the electronic integrator, they produce an electrical signal proportional to weight, which is then returned to the integrator. The vertical movement of the load cells is limited by the positive overload stop incorporated into the design of the belt scale.

Installing/Mounting

4

4.1 Introduction

⚠ CAUTION
Installation shall be performed only by qualified personnel in accordance with local governing regulations.

The belt scale is shipped from the factory as a single unit packed in a container for protection. The weigh module must be removed from its package and inspected for physical damage. Be sure the conveyor design meets the installation requirements for the belt scale.

Note

- Use only approved conduit and conduit fittings or cable glands to maintain NEMA or IP rating, as applicable.
- Adjust conveyor stringers to be rigid, straight, parallel to, and square with the belt line in the area of the scale installation.
- Adjust pulleys to ensure that the conveyor belt tracks straight and centrally from the head to the tail pulley.
- The idler to be used on the scale and at least the next two approach and retreat idlers, must be of the same style and manufacturer, and in good condition.

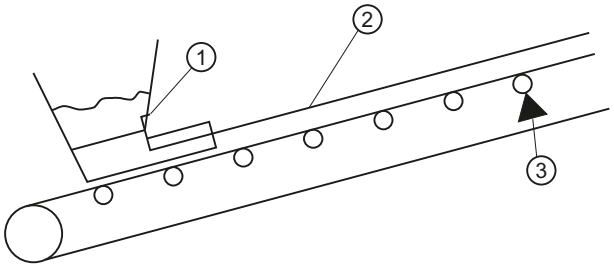
Prepare the site in accordance with the Siemens drawing(s) or by referring to the Belt Scale Applications Guidelines (7ML19985GA01).

4.2 Conveyor considerations

The ideal placement of the belt scale depends on the conveyor system. This section provides guidelines to determine belt scale placement.

4.2.1 Control gates

The installation of a material feed control gate or similar device improves uniform flow of material.



① Control gate
② Uniform material distribution
③ Belt scale

Note

Ensure steady and uniform material loading to the belt at or near the same speed as the conveyor belt.

4.2.2 Conveyor belting

Variations in the number of belt plies, the cover thickness and the type and number of splices in a given belt cause considerable change in the weight per unit length of the belt. During the course of zero calibrations, belt scales average the weight of the belt over one complete circuit of the belt. Large deviations from the average adversely affect the zero calibrations.

4.2.3 Head pulley

Note

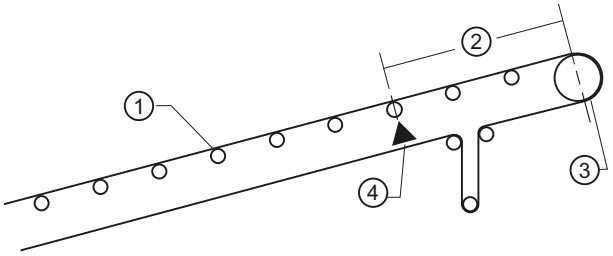
Use caution when installing a scale in a short conveyor, or when locating the scale near the head pulley.

Since head pulleys are flat faced, and carrying idlers are generally troughed, the belt profile must change from troughed to flat in a short distance. To accommodate this, the conveyor manufacturer designs a built-in vertical displacement of the head pulley above the top of the center roll of the adjacent idler.

- Insert idlers of decreasing trough angles between the head pulley and the normal run of idlers or there will be a considerable amount of stress on the belt edges and the idlers adjacent to the head pulley. The stress is transmitted to the scale.

Note

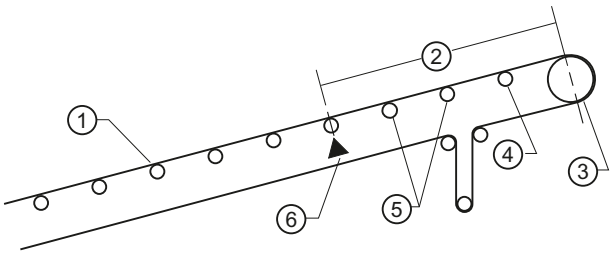
On conveyors with 20° trough idlers throughout, a minimum of two fixed 20° idlers must be located between the scale idler and the head pulley.



① 20º idlers
② Minimum 3 idler spaces
③ Head pulley
④ Belt scale

Note

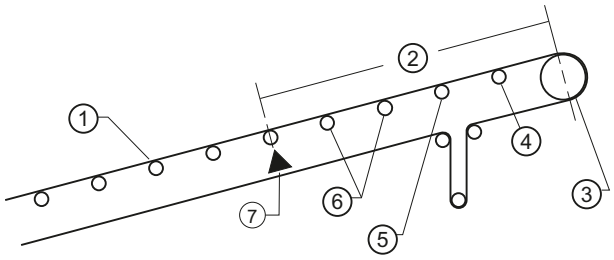
On conveyors with 35° trough idlers throughout, a minimum of two 35° and one 20° retreat idlers must be located between the scale and the head pulley.



① 35º idlers
② Minimum 4 idler spaces
③ Head pulley
④ 20º idler
⑤ 35º idlers
⑥ Belt scale

Note

On conveyors with 45° trough idlers throughout, a minimum of two 45°, one 35°, and one 20° retreat idlers must be located between the scale and the head pulley.

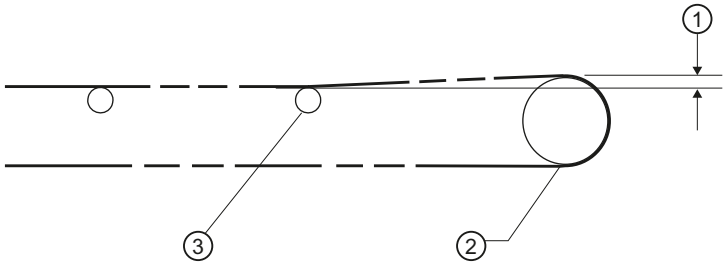


① 45º idlers
② Minimum 5 idler spaces
③ Head pulley
④ 20º idler
⑤ 35º idler
⑥ 45º idlers
⑦ Belt scale

Note

The vertical displacement of the head pulley relative to the adjacent retreat idler is normally in excess of that which is acceptable for belt scale installations.

When locating the scale close to the head pulley, a maximum of 13 mm (½") vertical displacement between the top of the head pulley and the top of the center of the adjacent roll is allowed.



① 13 mm (1/2") maximum
② Head pulley
③ 20° idler, center roll

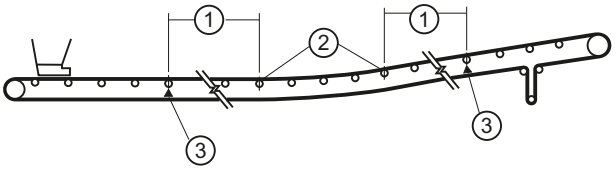
4.2.4 Conveyor curvature

Vertical curvature (varied heights on one belt) is common in conveyor design, but creates difficulties for belt scales if not dealt with correctly. The curvature, whether concave (internal) or convex (external), disturbs the idler alignment, if the scale is installed in the area of curvature. The concave curve tends to lift the belt off of the idlers in the area of curvature as belt loading decreases, adversely affecting the zero calibration.

Note

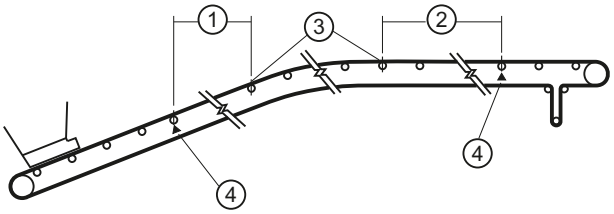
Avoid locating the scale within the tangents of scale curvature.

Concave



① Minimum 12 m (40 ft)
② Tangents
③ Belt scale

Convex



① Minimum 6 m (20 ft)
② Minimum 12 m (40 ft)
③ Tangents
④ Belt scale

4.2.5 Belt ploughs

Belt ploughs or any conveyor or material control device that changes the profile of the carrying belt in or near the scale area is not recommended. These devices can negatively affect the belt scale idler alignment and usually create drag on the belt which the scale senses as a material force of load.

Note

Do not install the scale within 9 m (30 ft) of belt ploughs or similar devices that contact the material or belt.

4.2.6 Stacker conveyors

Any conveyor that is not a permanent structure, which varies in its incline, elevation or profile is not considered a good installation for an accurate belt scale. A belt scale can be used effectively in this conveyor type, but requires special setup. Siemens offers an inclinometer for use with variable incline conveyors.

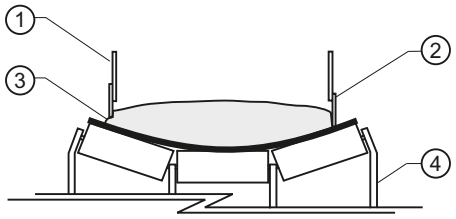
4.2.7 Conveyor trippers

Note

On a conveyor with a tripper car, locate the scale under the recommendations for vertical curves, but with the tripper fully retracted.

4.2.8 Skirt boards and sealing strips

Sometimes it is necessary to extend the infeed skirt boards and sealing strips the full length of the conveyor. This can create problems in weighing accuracy if the sealing strips exert excess force when contacting the belt and indirectly upon the idlers, especially where pinching occurs. The situation adversely affects the zero calibrations.



① Skirt board
② Sealing strip dragging along belt
③ Pinching can occur here
④ Idler

Note

If possible, remove skirting in scale area. If not, adjust skirting so sealing strip does not put excess force on the belt or allow pinching of material.

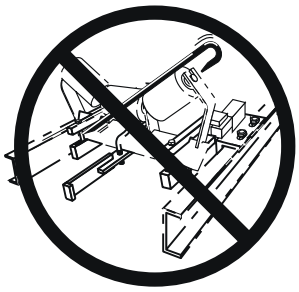
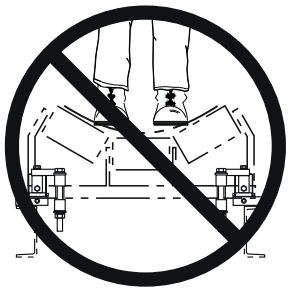
4.3 Load cell handling

The MBS belt scale is designed for low to medium-capacity operation and is constructed using two load cells. Although the load cells are protected by shipping stops that keep the cells from moving, care should be taken when handling the scale to avoid damaging the cells. The stops are metal strips about 38 mm (1.5") long with holes at each end for screws. One screw holds the stop to the dynamic section while the other screw holds the stop to the static section. When handling the MBS during installation and setup, make sure the stops remain in place. Reinstall both shipping stops during maintenance or prolonged shutdown.

4.4 Installation precautions

The following precautions should be observed when handling the scale.

- Do not pry on the idler, its mountings, or the cells directly.
- Do not stand or lean on the scale.
- Avoid shock from blows of a hammer when trying to position the scale during installation.
- Do not lift the scale by its idler.
- Do not lift the scale by the idler mounting brackets.

Note

For general safety and best system performance, the belt scale must be grounded through the conveyor and the conveyor must be grounded to earth.

⚠ CAUTION

Arc welding

Use extreme caution when arc welding in the area of the belt scale. Ensure that no welding current can flow through the belt scale. Welding currents passing through the scale can functionally damage the load cells.

4.5 Installation Procedure

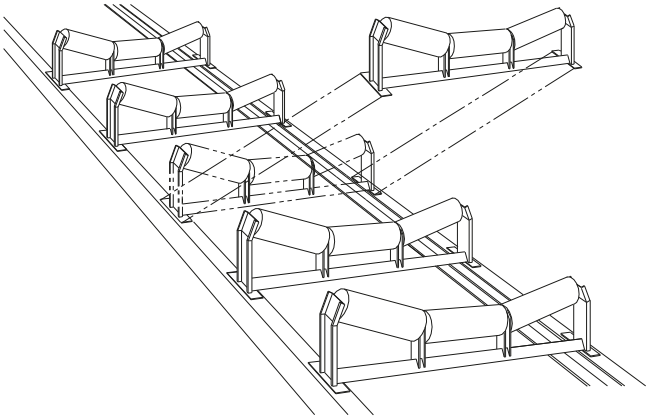
4.5.1 Installation introduction

The MBS installation has eight steps:

1. Remove the idler(s)
2. Remove the idler foot plate
3. Idler mounting
4. Position the weigh module
5. Position the scale
6. Release the shipping stops
7. Align and level the idlers
8. Check alignment

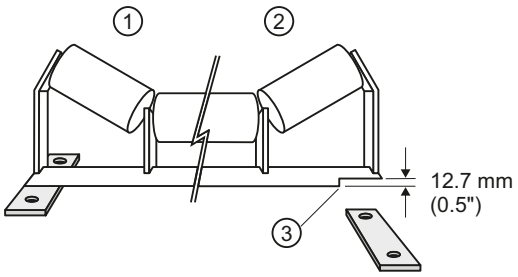
4.5.2 Remove the idler

Remove the idler(s) from the desired location on the conveyor.



4.5.3 Remove the idler foot plate and modify the idler frame at both ends

Remove the idler foot plate and modify the idler frame at both ends of the idler as shown below. Occasionally, in less than 5% of applications, the combined effect of the idler rework and the clamping of the scale at its inboard mounting position could result in abnormal idler vibration. When this occurs, gusset plate reinforcements should be welded to the idler at the joints of the horizontal spine and the outer vertical leg member.



① Before
② After
③ See notes below

Note

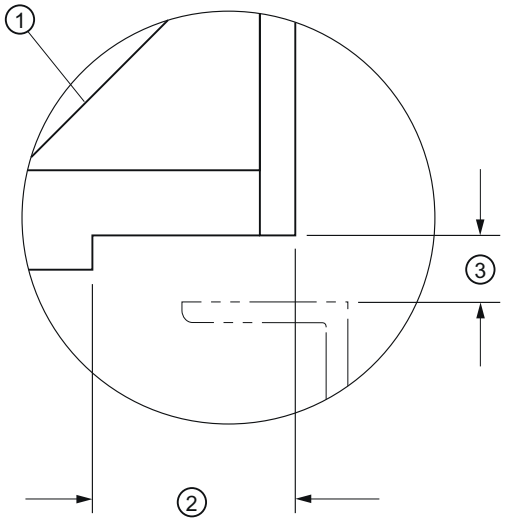
Idler support

Cut idler support as shown to allow clearance when the load is applied.

4.5.4 Idler mounting

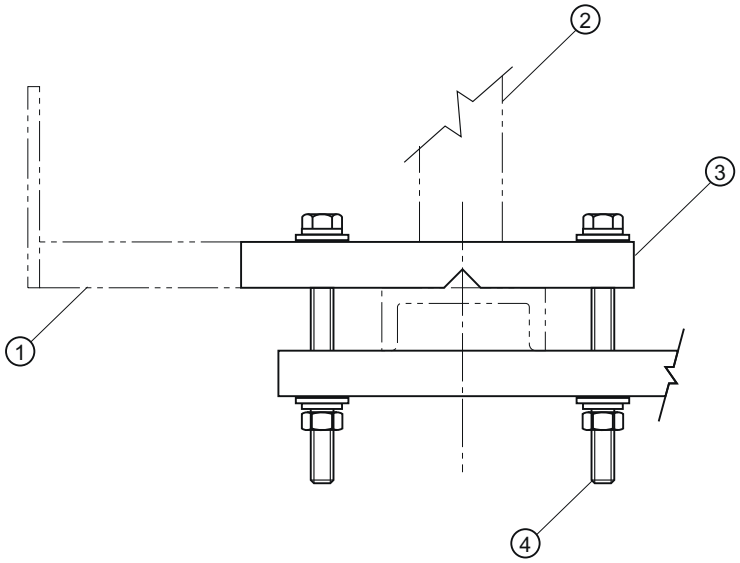
The belt scale is usually installed in conveyors employing conventional rigid structure idlers. Within this type of idler, construction will vary depending on the manufacturer and the application. The idler depicted in this section uses an angle iron spine. The following images depict alternate idler construction and tips on how they should be modified and installed.

- Troughed idler with channel spine



① Gusset reinforcement if required
② 100 mm (4")
③ 12.7 mm (0.5")

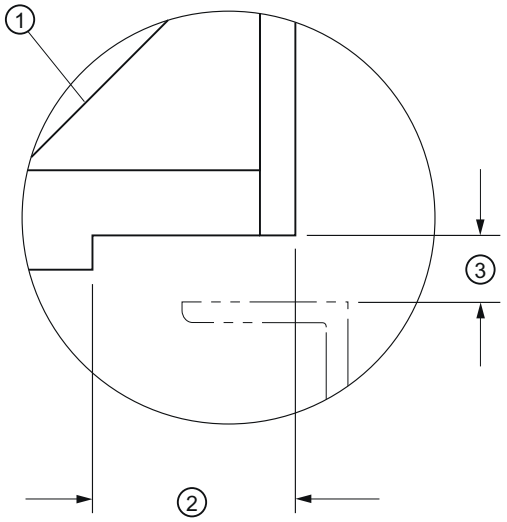
Idler modification



① Optional flat bar weight mounting
② Customer's idler
③ Idler clip
④ Mounting bolts

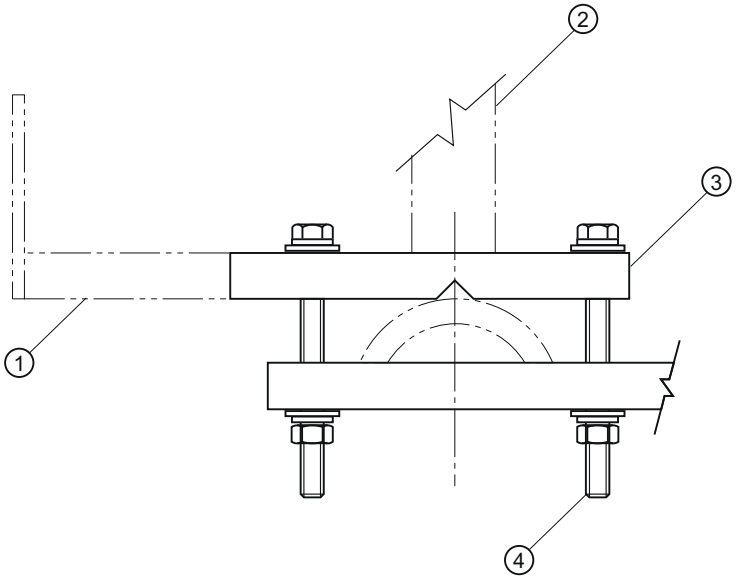
Idler installation

- Troughed idler with pipe spine



① Gusset reinforcement if required
② 100 mm (4")
③ 12.7 mm (0.5")

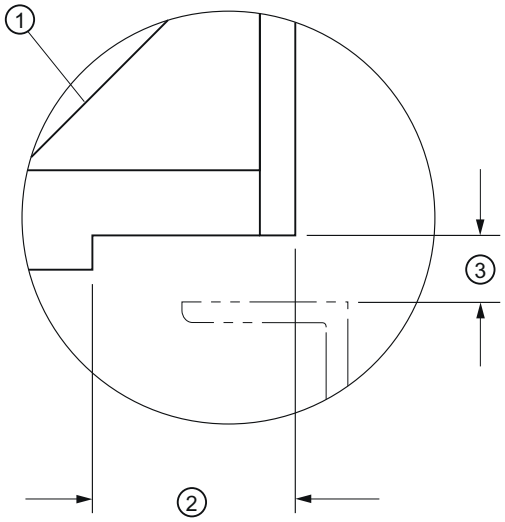
Idler modification



① Optional flat bar weight mounting
② Customer's idler
③ Idler clip
④ Mounting bolts

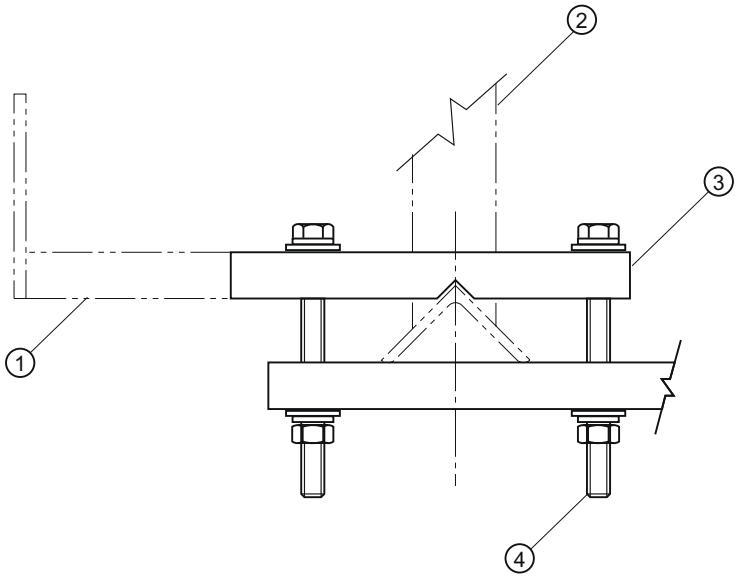
Idler installation

- Troughed idler with angle spine



① Gusset reinforcement if required
② 100 mm (4")
③ Idler clip

Idler modification

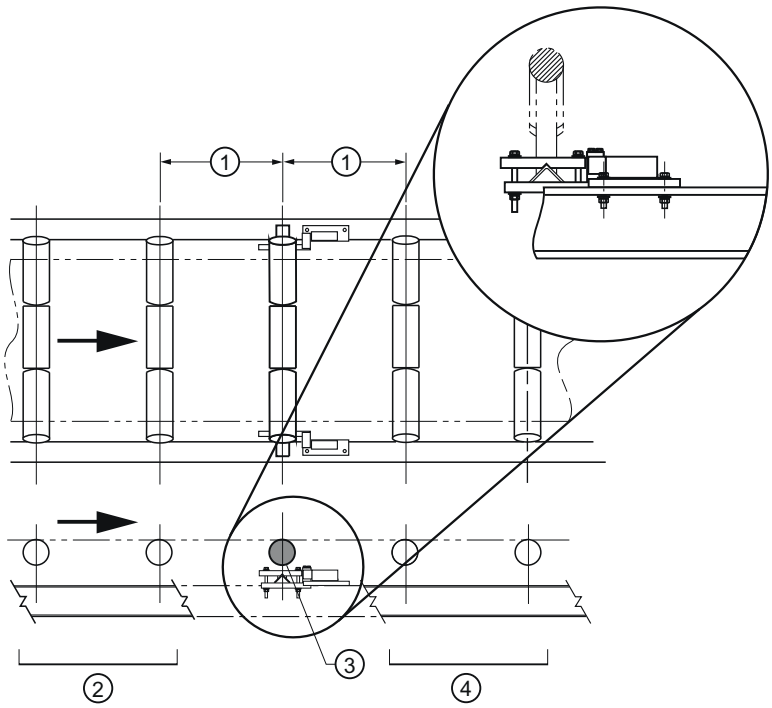


① Optional flat bar weight mounting
② Customer's idler
③ Idler clip
④ Mounting bolts

Idler installation

4.5.5 Position the weighmodule

Position the weigh modules so that the center of the scale idler is centered between the adjacent approach and retreat idlers.
Ensure that the scale is centered and square to the stringers and idler, and clamping brackets have suitable clearance.



① Dimension 'n'
② approach idlers
③ location of removed idler
④ retreat idlers

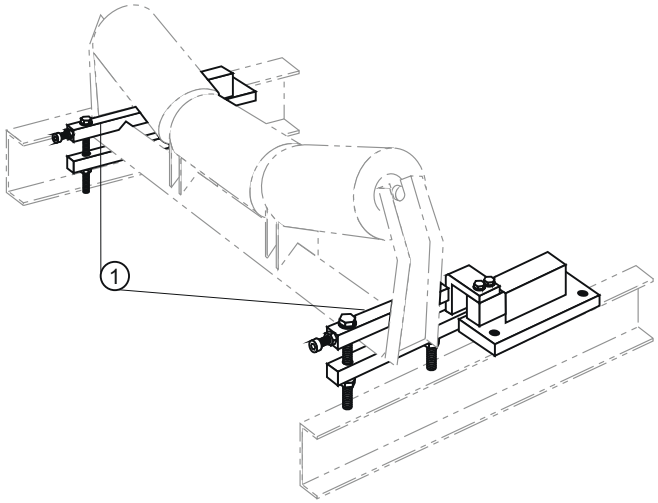
Note

Be sure there is sufficient clearance between the return belt, MBS, and its test weight (when used during the calibration procedure).

4.5.6 Position the scale

Mark the position and make new mounting holes suited for M12 (1/2") bolts. Refer to the Outline Dimensions.

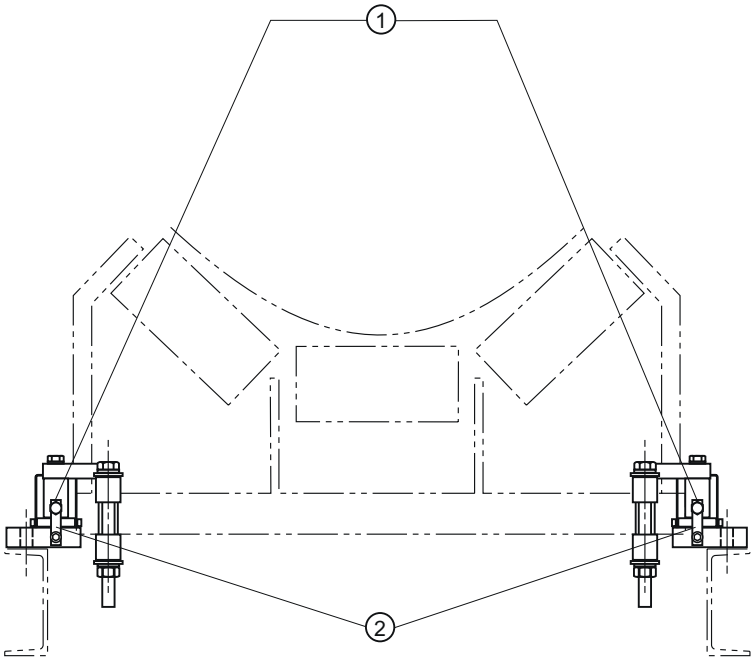
Place the scale on the conveyor stringers with the arrows on the weigh modules pointing in the direction of belt travel (retreat idlers). Mount the modified idler onto the scale using the idler clamping brackets.



① Idler clamping brackets

4.5.7 Release the shipping stops

Release the shipping stops in order to free the weighing mechanism. Loosen 'A' screws and rotate both shipping stops downward until the shipping stop is 90 degrees from its starting position. Tighten screws to secure in place.



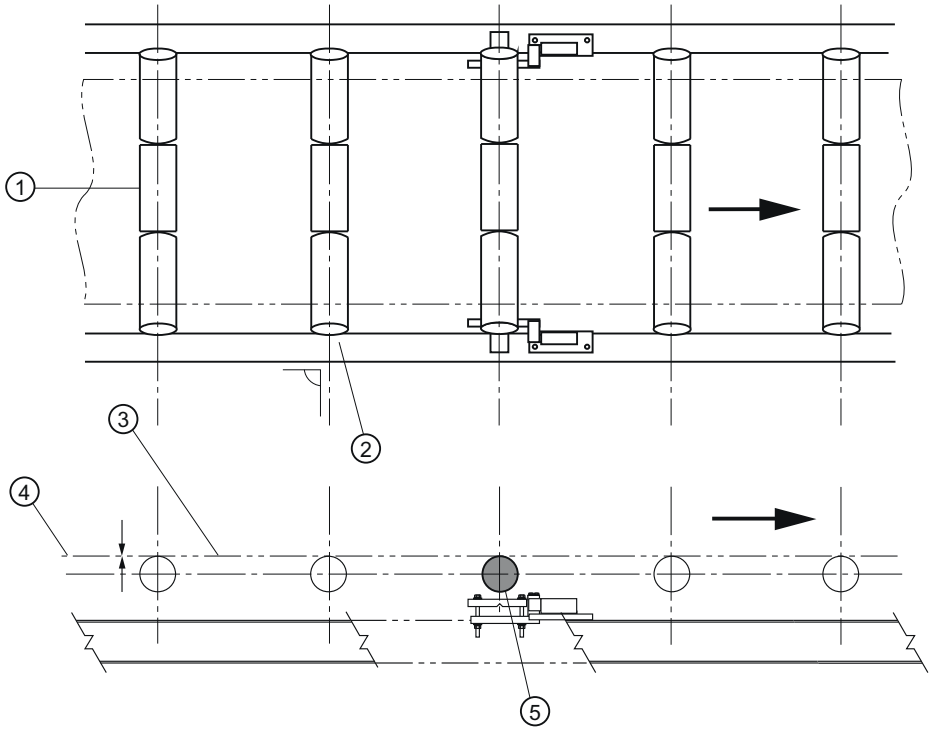
① 'A' screws
② shipping stops

Note

Shipping bracket must be removed prior to aligning the idlers in the weighing area.

4.5.8 Align and level the idlers

Align and level the idlers properly by shimming the scale idler, the two approach idlers, and the two retreat idlers, until they are within ± 0.8 mm (1/32") of each other. Check that the idlers are centered and squared to the conveyor during the shimming process.



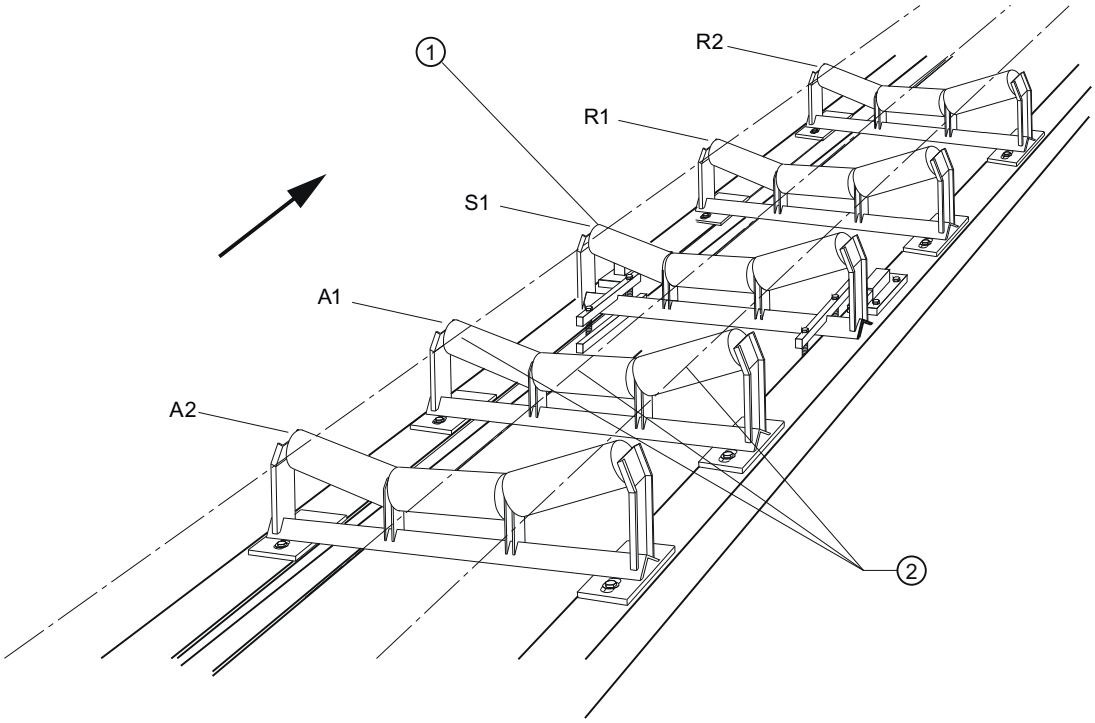
① center of idlers to be in line
② idlers must be square to stringers
③ A2 to R2 ± 0.8 mm (1/32")
④ reference
⑤ adjust idler last

Note

Precise idler alignment is very important to achieve maximum accuracy of the weighing system. Misaligned idlers will result in unwanted forces being applied on each idler in the weighing area, causing calibration and measurement errors.

4.5.9 Check alignment

Use a good quality wire or string to check for alignment. The wire or string must be able to withstand sufficient tension in order to eliminate any sag. Adjust shims so that all rolls of the A2 through to the R2 idlers are in line within ± 0.8 mm (1/32").



① MBS with modified idler

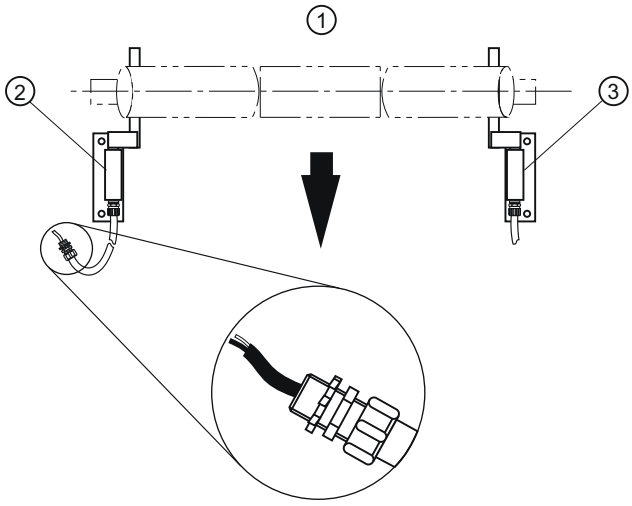
② wire or string (for alignment)

Although the accepted tolerance for idler alignment is ± 0.8 mm (1/32"), the scale-mounted idler should never be lower than the adjacent idlers. Establishing good idler alignment is the most important part of the installation procedure. Scale accuracy is directly affected by alignment.

Connecting

5

5.1 Belt scale wiring



① Load cells, complete with 3 m (10 ft) cable in flexible conduit with 1/2" NPT panel connector

② Load cell 'B'

③ Load cell 'A'

Load cell	MBS	Milltronics Integrator	SIWAREX FTC
A	RED	+ EXC	+ EXC
	BLK	- EXC	- EXC
	WHT	- SIG 'A'	- SIG
	GRN	+ SIG 'A'	+ SIG
	SHIELD	SHIELD	SHIELD
B	RED	+ EXC	+ EXC
	BLK	- EXC	- EXC
	WHT	- SIG 'B'	- SIG
	GRN	+ SIG 'B'	+ SIG
	SHIELD	SHIELD	SHIELD

Note

To avoid affecting the weighing process, do not support conduit or load cell cables on the weighing idler, or on the idler support components of the belt scale.

Commissioning

6

6.1 Calibration

After all parts of the weighing system (belt scale, speed sensor, integrator) have been properly installed and connected, the weighing system and integrator must be calibrated. The calibration is initially done using the test weight(s), however material tests are recommended to achieve the greatest accuracy. Refer to the integrator operating instructions for programming and calibration details and for information about material tests. All operating instructions are available for download at our web site:

Siemens weighing (http://www.siemens.com/weighing)

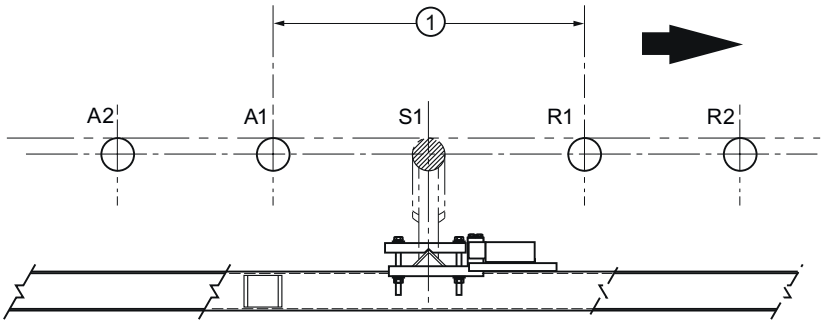
6.2 Test load

The test load value is required for calibration of the integrator. Enter the calculated value into the associated programming parameter of the integrator in kilograms per meter or pounds per foot.

The test load value is calculated as follows:

$$\text{Test load} = \frac{\text{test weight mass}}{\text{idler spacing}} \left[\frac{\text{kg}}{\text{m}}\right] \text{ or } \left[\frac{\text{lb}}{\text{ft}}\right]$$

where idler spacing = L/2 [minimum 0.6 m (2.0')]

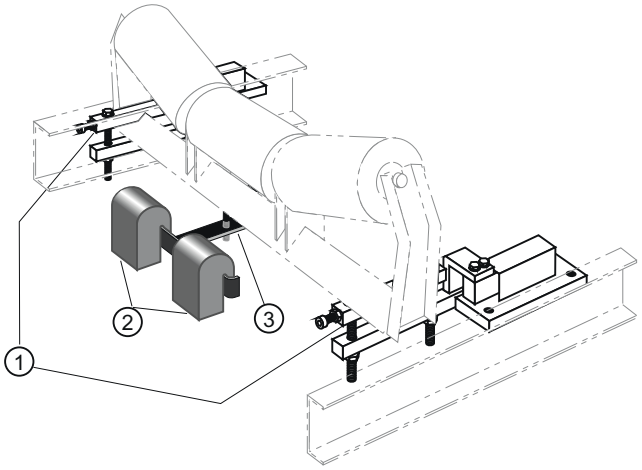


① Dimension L

6.3 Balancing

For applications where the conveyor loading does not repeat in locations across the width of the belt, such as side-to-side loading, electronic balancing of the two load cells is recommended. Balancing is completed during the initial start-up, but should be repeated if either load cell is reinstalled or replaced. Refer to the associated integrator manual to complete the balancing procedure.

When balancing load cells, apply a test weight to the extreme sides (side A or B), as required.



① Idler clamping brackets
② Test weights
③ Test weight bracket

6.4 Final calibration

Program the belt scale integrator as suggested in its operating instructions and with parameters suitable for the application. With programming complete, the system is ready for calibration.

A zero calibration can be performed after sufficient running of the conveyor allows the belt to limber up and take its natural formation. A zero calibration is performed in accordance to the belt scale integrator operating instructions with the conveyor running empty.

6.5 Zero calibration

Perform the zero calibration as described in the Calibration section of the integrator operating instructions.

After the completion of the zero calibration, a span calibration, as described in the belt scale integrator operating instructions, can be performed with the test weight(s) applied. Be sure to stop the conveyor when applying and removing the test weight.

6.6 Span calibration

1. The span reference (test load) is simulated using the test weight.
2. Apply the calibration test weight(s) to the scale.
3. Perform the span calibration as described in the Calibration section of the integrator operating instructions.

After completing the span calibration, remove the test weights and store them. With a successful zero and span calibration, and with the test weight(s) removed from the belt scale, the belt scale system is ready for operation. Ensure that the belt scale integrator is left in RUN mode.

6.7 Material test

To achieve accuracy with respect to absolute values, perform material tests. Refer to the associated integrator manual for instructions on material testing.

6.8 Re-rating

Consult your Siemens representative for any significant change in rate, speed, and/or idler spacing from original design specifications to maintain proper design parameters.

Service and maintenance

7

7.1 Maintenance

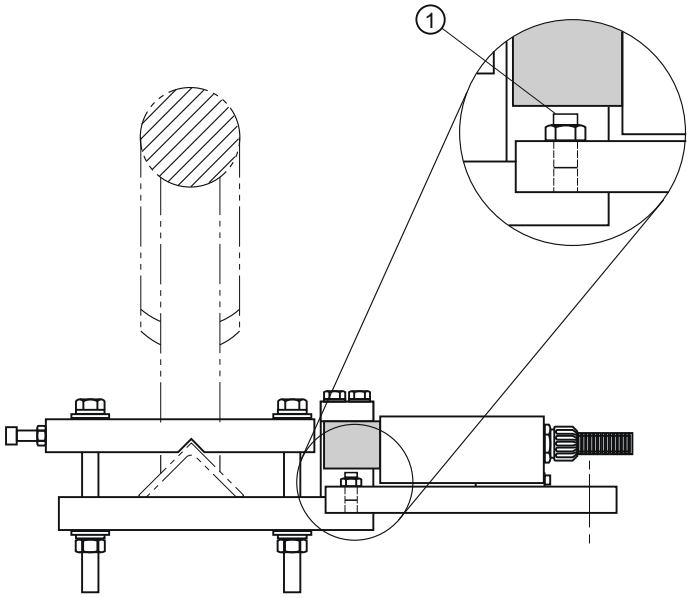
Keep the weighing equipment clean. Accumulation of material between the fixed support frame (static) and the live frame (dynamic) as well as around each load cell could affect the scale accuracy.

Periodically check the alignment of the stringers and idlers in the weighing area.

When a problem arises in the conveyor, it is possible that the scale will be affected. Therefore, periodic conveyor maintenance is important to proper scale operation which should include:

- lubrication of all pulleys and idlers
- proper belt tracking and training
- proper belt cleaning and scraping
- proper take up operation
- proper material feeding and spillage control

You can observe the integrity of the load cells by performing zero and span calibrations. If the zero and span deviations display a continuous unidirectional drift or the system cannot be calibrated for any apparent mechanical reason, the load cells may be damaged.



① Load cell stop

7.2 Replacing a load cell

CAUTION

Re-install the shipping stops during maintenance or any other time when protection of the load cells is required.

1. Install both shipping stops
2. Support the belt and weighing idler from above or below.
3. Remove load cell hardware from the dynamic (moving) parts.
4. Remove load cell hardware from the static support.
5. Remove the existing load cell from the belt scale.
6. Replace with a new load cell fastening to static support then dynamic (moving structure).
7. Remove belt and idler support.
8. Release both shipping stops
9. Adjust idler alignment if necessary.
10. Perform balance, zero, and span calibrations.

Note

The load cell stop is set at the factory to allow the load cell to deflect up to 150% of its design load (30 mV at 10 V DC excitation). The overload gap for a replacement load cell should be set by mV readings.

7.3 Spare parts

The only spare part recommended for the belt scale is the load cell. Refer to the load cell nameplate for the proper size and model number. Re-balance any load cell that has been replaced.

7.4 Technical support

If you have any technical questions about the device described in these Operating Instructions and do not find the right answers, you can contact Customer Support:

- Via the Internet using the **Support Request:**

Support request (http://www.siemens.com/automation/support-request)

- Via Phone:
  - Europe: +49 (0)911 895 7222
  - America: +1 423 262 5710
  - Asia-Pacific: +86 10 6475 7575

Further information about our technical support is available on the Internet at

Technical support (http://support.automation.siemens.com/WW/view/en/16604318)

Service & Support on the Internet

In addition to our documentation, we offer a comprehensive knowledge base online on the Internet at:

Service & Support (http://www.siemens.com/automation/service&support)

There you will find:

- The latest product information, FAQs, downloads, tips and tricks.
- Our newsletter, providing you with the latest information about your products.
- Our bulletin board, where users and specialists share their knowledge worldwide.
- You can find your local contact partner for Industry Automation and Drives Technologies in our partner database.
- Information about field service, repairs, spare parts and lots more under "Services."

Additional Support

Please contact your local Siemens representative and offices if you have additional questions about the device

Find your contact partner at:

Local contact person (http://www.siemens.com/automation/partner)

Technical data

8

8.1 Specifications

Accuracy

± 0.1% of totalization over 33 to 100% operating range

Accuracy subject to: On factory approved installations the belt scale systems totalized weight will be within the specified accuracy when compared to a known weighed material test sample. The test rate must be within the specified range of the design capacity and held constant for the duration of the test. The minimum material test sample must be equivalent to a sample obtained at the test flow rate for three revolutions of the belt or at least ten minutes running time, whichever is greater.

Load Cell

Construction	aluminum
Enclosure	IP66 rated
Excitation	10 V DC nominal, 15 V DC maximum
Output	2 mV / V excitation at rated load cell capacity
Non-linearity	0.02% of rated output
Hysteresis	0.02% of rated output
Non-repeatability	0.01% of rated output
Capacity	standard duty ranges: 30, 50, 100 kg
Overload	150% of rated capacity ultimate 200% of rated capacity
Temperature	-3 to +70 °C (-220 to +158°F) operating range -10 to +40 °C (-15 to +105 °F) compensated

Belt width

up to 1000 mm (CEMA width up to 42 ")
refer to Outline Dimensions

Belt speed

3 m/s (600 fpm)

Contact Siemens application engineering for consideration of higher belt speeds.

Capacity

up to 1500 t/h (1650 STPH) at maximum belt speed

Conveyor incline

± 20° from horizontal, fixed incline
up to ±30° with reduced accuracy. Review by Siemens application engineer required.

Conveyor idler

flat to 35 °
up to 45 ° with reduced accuracy. Review by Siemens application engineer required.

Idler diameter

50 to 150 mm (2 to 6 ")

Idler spacing

0.6 to 1.5 m (2 to 5 ft)

Interconnection (to integrator)

< 150 m (500 ft) 0.75 mm^2 (18 AWG) 6 conductor shielded cable
> 150 m (500 ft) to 300 m (1000 ft) 0.75 to 0.34 mm^2 (18 to 22 AWG) 8 conductor shielded cable

Approvals

Europe	CE
Australia	C-TICK

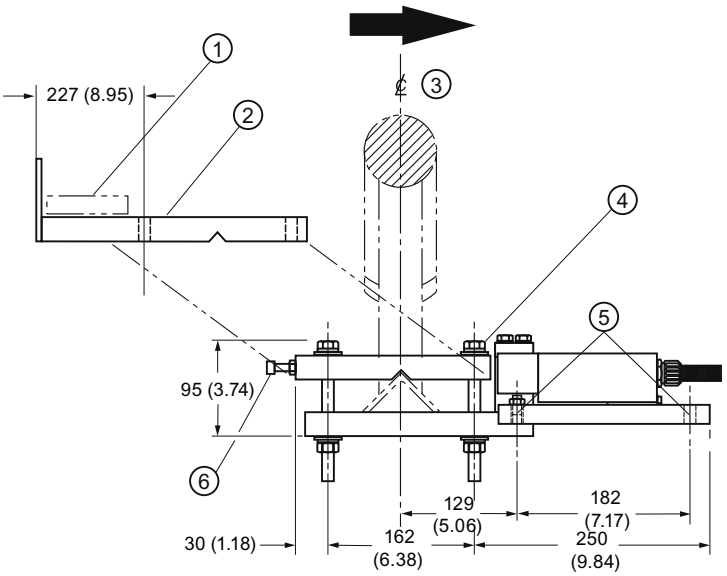
EMC performance available upon request.

Dimension drawings

9

9.1 Outline dimensions

Side View



① Apply optional flat bar weight

② Optional flat bar weigh arm (Not recommended for declined conveyor applications)

③ Weigh idler

④ M12 mounting bolts

⑤ 14.5 mm Ø (0.57") mounting holes (two per weigh beam)

⑥ M8 mounting bolt for optional hanging test weight (see Note B below)

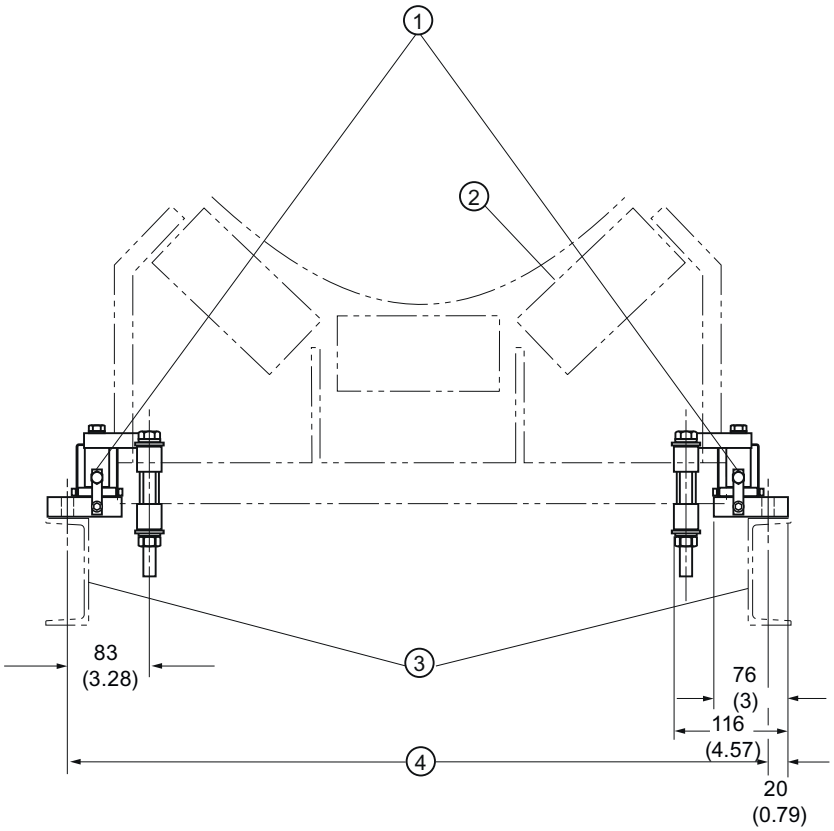
MBS Belt Scale, dimensions in mm (in)

Note

A. (2) approach and (2) retreat idlers should be aligned with the weigh idler to within + 1/32" to 0" (0.8 to 0 mm). Contact your Siemens representative with any questions.

B. Test weights (customer supplied), may be hung on the M8 bolts. If this method is chosen, equal mass should be applied to each weigh beam, and the test weights should hang free of the fixed structure.

Front View



① Shipping brackets (must be removed after MBS is installed)
② Standard base CEMA idler, or equivalent (customer supplied)
③ Existing conveyor stringers
④ Belt width + 230 mm (9") (based on CEMA sizes), or to suit

MBS Belt Scale, dimensions in mm (in)

For more information

www.siemens.com/level

www.siemens.com/weighing

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